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BOTANICAL NEWS.—The Transactions of the Academy of Science of St. Louis, Vol. iii, No. 4, 1878, contain the following botanical papers of interest, by Dr. George Engelmann: On the Oaks of the United States; The Flowering of *Agave shawii* (with a plate); The American Junipers of the section *Sabina* (with cuts); A Synopsis of American Firs (*Abies* Link); Oak and Grape Fungi.

Dr. Aug. Jäger continues his *Genera et Species Muscorum*, with reference to the mosses of the globe, in the Proceedings of the Natural History Society of St. Gall. The Proceedings of the Royal Danish Academy of Science contain an elaborate paper by Eugene Warming, on the development and morphology of the Cycads (with three plates). His studies were principally based on *Ceratozamia longifolia* and *brevifrons*, and also different species of *Zamia*, *Cycas* and *Dioon*. An important paper by Prof. E. Strasburger, on fructification and cell-division, appears in the Jena Zeitschrift, Bd. 11, Heft 4.

In the extraordinary volume of the Nova Acta of the Royal Society of Upsal, Prof. Fries describes the species of Swedish *Polybalsticæ*. The *Botanologia* of R. F. Fristedt is for the first time published. F. R. Kjellman discusses the algæ of the West Coast of Nowaja Semlja and Wajgatsch. Axel N. Lundström's critical remarks on the willows of Nowaja Semlja, and their genetic relations, is illustrated by an interesting plate, while Wittrock's elaborate paper on the development and systematic arrangement of the Pithophoraceæ, a new order of Algæ, will be of much interest to algologists.

Dr. Oscar Drude contributes a valuable paper to Petermann's *Mittheilungen* for January, on the geographical distribution of palms. The *Journal of Botany* for January contains a paper by A. Dickson on the structure of the pitcher of *Cephalotus foliicularis*; the February number, Side-lights on the structure of Composites, and a note on the Dimorphism of Restiaceæ, by M. T. Masters.

The Bulletin of the Torrey Botanical Club for January, contains a valuable paper by G. E. Davenport, on Vernalion in Botrychia, with a plate. In the Botanical Gazette for February, A. W. Chapman continues his enumeration of new Floridian plants.

## ZOÖLOGY.<sup>1</sup>

NOTES ON THE NESTING HABITS OF THE ENGLISH SPARROW.—Statements frequently come under my observation regarding the habit of this bird of appropriating the nests of other species for its own use. A prominent example of this kind came to view during the spring of 1875, at Reading, Penna. In 1874 I occupied a sleeping apartment, about eight or ten feet from the windows of which a pair of robins had constructed a nest in the

<sup>1</sup> The departments of Ornithology and Mammalogy are conducted by Dr. ELLIOTT COUES, U. S. A.

branches of a maple tree. The female had scarcely time to warm her abode before a lot of sparrows came and during the *mélée* the former was vanquished and driven away. The nest was then pulled up and partially destroyed. In the spring of 1875 a pair of robins came (and I doubt not but that they were the same), examined the *débris* which had been pretty well settled during the winter, and commenced the construction of another nest. This time they were unmolested until after the eggs had been deposited. I commenced to feel more secure for my little neighbors, but my gratification was of short duration. About a week had elapsed when the sparrows made another attack, finally conquering their opponents and driving them away. They tore the nest into one mass of rubbish, when all but one pair retired, which then worked an entrance and fitted it up, where they remained until two broods were hatched. In the spring of 1876 the limbs were sawed off of the trees, preventing probably a recurrence of similar exhibitions of strife, or in other words, downright cruelty.—*W. J. Hoffman, M.D.*

THE LARGEST OF ALL FRESH-WATER POLYZOA.<sup>1</sup>—There is in this neighborhood a fresh-water lake in which are produced curious jelly-like substances, covered on the outside with small seed-like bodies. These structures are of various sizes, from that of a cocoa-nut to that of a half-bushel basket, and are transparent for a thickness of two or three inches, the inside of the mass being tinged with red and green. They apparently begin their growth on a submerged stick or stone, and when grown large loosen and float about for a time, and then gradually dissolve or decay. The body of the jelly-mass is firm and cuts with a knife nearly as hard as a ripe melon.—*K. Cruger, West Chester Co., N.Y.*

Mr. Cruger apparently refers to the largest of all known fresh-water Polyzoa, *Pectinatella magnifica* Leidy.

TWO NEW GENERA OF NORTH AMERICAN FRESH-WATER FISHES have been recently described by Prof. D. S. Jordan, which are of considerable interest. One of them belongs to the family of the *Catostomidæ*, and is distinguished by a peculiar form of the mouth and lips, which approaches that seen in the Cyprinoid genus *Exoglossum*. The only species known is named *Lagochila lacera*, and is found in some of the tributaries of the Tennessee river. The other genus is Acanthopterygian, and is placed by Prof. Jordan between the *Percidæ* and *Aphredodiridæ*. It agrees with *Aphredodirus* in several particulars, but has a posterior vent. The typical species is quite small, and is found in the rivers of Arkansas and Texas. It is the *Elassoma zonatum* of Jordan.

A NEW GENUS OF CYSTIGNATHIDÆ FROM TEXAS has recently been determined by Prof. Cope from specimens discovered by G.

<sup>1</sup> Abstract of a letter communicated by the Smithsonian Institution.

W. Marnock, near San Antonio. It is allied to *Phyllobates*, being like that genus, without vomerine teeth, but the nasal bones form a close continuous roof as in *Hylodes*. The species is of medium size, and is called by Cope *Syrrhophus marnockii*. With it were found specimens of the Eastern species of Hyliid, *Chorophilus oculatus*.

BASSARIS ASTUTA IN OREGON.—Mr. A. H. Wood, of Painted Post, New York, has lately sent to the Smithsonian, at my request, a specimen of *Bassaritis astuta* taken in a trap, on Rogue river, thirty-five miles north-west of Jacksonville, Oregon, in December, 1877. The person who took it had hunted and trapped in the region for many years, but had never before seen such an animal. This occurrence is interesting as still further extending the known range of the species: see Baird, Mamm. N. A. 1857, 147 (Arkansas and California and south through Mexico); Sullivan, Am. Nat. vi. 1872, 362 (Ohio); Coues *ibid.* 364 (Ohio and Kansas).—Elliott Coues, Washington, D. C.

LEPTODISCUS MEDUSOIDES, A NEW FORM OF NOCTILUCA.—In the *Fenaische Zeitschrift*, Neue folge, 4th Band, 3d Heft, 1877, Richard Hertwig, under the above name, describes an exceedingly interesting Noctiluca-like organism which he had the good fortune to discover in the Harbor of Messina, during the winter of 1876-77. This new form is perfectly discoid in shape, with the flagellum characteristic of *Noctiluca*. Its size varies, measured across the disc from 0.6 mm. to 1.5 mm. The disc is thickest in the centre, somewhat raised or convex on the dorsal side, while the ventral is concave; near the ventral surface and in the centre, there is a bipartite, ovoid nucleus, the smaller half of which is homogeneous, the larger, granular. Numerous oil globules are imbedded just beneath the dorsal integument, but with the exception of the whitish spot (granular area), in the centre the disc is clear and transparent, exhibiting slight iridescence of the convex side.

As the names indicates, this organism is medusa-like, but this likeness becomes still more strikingly manifest when the organism moves. As in *Medusæ*, change of place is effected by the powerful contraction and dilatation of the umbrella-shaped body, like the former forcing the water suddenly from the cup-like cavity. In the energy and rapidity of the contractions Dr. Hertwig says it is not behind any *Medusa*, provided the little creature is touched with a glass rod. Under these circumstances it darts like a *Rhopalonema* through the water as swiftly as an arrow, by the quickly succeeding pulsations or contractions of its umbrella-shaped body. The strongest contractions were produced by osmic acid, the creature under the action of this reagent becomes bell-shaped, about half as wide across the free border of the bell as it is high. As in *Medusæ*, the animal has the power of bending portions of the free border of the umbrella inwards, or sometimes the opposite

halves of the disc become bent towards each other like the opposite valves of a mollusc. Altogether the discovery is a most interesting one, showing as it does the wide range of form and physiological differentiation which may be exhibited by a very restricted group of simple organisms.

MARGARITANA DEHISCENS Say.—A study of the anatomical parts of various species of *Unionidæ*, leads to opinions somewhat different from those set forth by Mr. Lea in the last edition of his invaluable *Synopsis*, and suggests a revival of the discussion as to the propriety of dividing the genus *Unio*, as now constituted, into several genera or sub-genera. The soft parts of these molluscs have been found to present very great differences, not only in the position and relation of the various organs, but also in regard to their degrees of development.

The species known as the *Margaritana dehiscens* of Say, presents characters that set it entirely apart from the other species of that group examined in connection with it. These characters will be fully set forth in a future article, when further studies and observations shall have been made. It is suggested that this species belongs to the genus *Leptodea* of Rafinesque. It exhibits certain characters that would seem to ally it to the genus *Mycetopus* from South America.—A. G. Weatherby.

ON TEXAN STREPTOPOMATIDÆ.—The writer has recently had the pleasure, through the kind services of Mr. G. W. Marmock, of Bexar county, Texas, of examining specimens of the exceedingly rare *Melania pleuristriata* of Say, which, before Mr. Marmock's discovery, was regarded as a lost species, no types being in existence.

A careful study of the linguals of this species, as well as various characters of the shell, and the extreme south-western geographical range, suggests its close alliance to the genus *Pachycheilus* Lea.

I am informed by Mr. Marmock that it inhabits the springs of south-western Texas, in this respect having the habit of the East Tennessee *Goniobasis*. A species closely allied, or a very persistent variety, for which I suggest the name, at present, of variety *marmocki*, accompanies the specimens, together with an unidentified *Planorbis*, a *Physa* and a *Lymnæa*.

Mr. Marmock also found, in the same region, the very rare *Holospira roemeri* Pfr., the *Macroceramus pontificus* Gould, and the *Helix photus* Pfr.

The description of the *Pachycheilus* was published by Mr. Say in the New Harmony Disseminator, December 30, 1839. Descriptions may also be seen in the following works: Descr. of New Shells, 8vo, p. 15, 1840; Binney's Edition of Say, p. 140.

For the identification of the species, and the above references to the description, the writer is indebted to the kindness of Mr. Geo. W. Tryon, Jr.—A. G. Weatherby.